UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,398	10/27/2000	Robert Miller	IBM / 164	2827

				EXAMINER	
7590	11/20/2003			NGUYEN, THU HA T	

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ART UNIT	PAPER NUMBER
2155	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/697,398	MILLER ET AL.
	Examiner	Art Unit
	Thu Ha T. Nguyen	2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2000*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-13,15-17 and 19-24* is/are rejected.

7)☐ Claim(s) *3,14 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2 and 3* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1.   Claims **1-24** are presented for examination.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C.

§ 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3.   Claims 1, 4, 8-9, 11, 12, 16, 19, and 21-24 are rejected under 35 U.S.C.

§ 102(e) as being anticipated by **Kampe et al.,** (hereinafter Kampe) U.S. Publication

No. **2003/0041138**.

4.   As to claim 1, **Kampe** teaches the invention as claimed, including a method of processing a request in a clustered computer system to organize a plurality of members into a group, the method comprising, in a local member from the plurality of members:

(a) locally determining within the local member whether the local member is a subgroup leader for a subgroup with which the local member is associated (abstract, figures 1-2, 4, paragraphs 0011-0014, paragraphs 0058-0063); and

(b) if so, transmitting group data on behalf of the subgroup (abstract, figure 4, paragraph 0031, paragraphs 0040-0047, paragraphs 0058-0063).

5.   As to claim 4, **Kampe** teaches the invention substantially as claimed, further comprising, in the local member: (a) sending an acknowledgment message during an acknowledgment round (paragraphs 0006-0007, paragraph 0031, paragraphs 0085-0090); (b) waiting for receipt of an acknowledgment message from each of the plurality of members (paragraphs 0006-0007, paragraph 0031); and (c) processing the group data after receipt of acknowledgment messages from each of the plurality of members (paragraphs 0085-0093).

6.   As to claim 8, **Kampe** teaches the invention substantially as claimed, wherein locally determining within the local member whether the local member is the subgroup leader includes comparing a unique characteristic of the local member with those of the other members associated with the subgroup (paragraphs 0078-0079).

7.   As to claim 9, **Kampe** teaches the invention substantially as claimed, wherein the unique characteristic of the local member includes a member name, and wherein locally determining whether the local member is the subgroup leader includes determining whether the local member is the lowest named member among the members associated with the subgroup (paragraphs 0078-0079).

8.   As to claim 11, **Kampe** teaches the invention substantially as claimed, wherein the request comprises a merge request, wherein the plurality of members is partitioned into a plurality of subgroups, each subgroup associated with a partition, and each partition associated with a subset of the plurality of the members (abstract, figure 2, paragraph 0035-0037, 0069).

9.   As to claim 12, **Kampe** teaches the invention substantially as claimed, including a method of processing a request in a clustered computer system to organize a plurality of members into a group, the plurality of members partitioned into a plurality of subgroups, the method comprising:

(a) transmitting group data on behalf of each subgroup (abstract, figure 4, paragraph 0031, 0040-0047, 0058-0063); and

(b) locally tracking within each member whether the group data for the subgroup associated with such member has been transmitted (abstract, figure 4, paragraphs 0011-0014, 0031, 0040-0047, 0052, 0058-0063, 0065).

10.   As to claim 16, **Kampe** teaches the invention substantially as claimed,

including an apparatus, comprising:

(a) a memory (figures 1-3, paragraphs 0040- 0045); and

(b) a program resident in the memory, the program configured to process a

request in a clustered computer system to organize a plurality of members into a group

by locally determining for a local member among the plurality of members whether the

local member is a subgroup leader for a subgroup with which the local member is

associated, and if so, transmitting group data on behalf of the subgroup (abstract,

figures 1-3, paragraphs 0011-0014, 0040-0045, 0058-0063).

11.   As to claim 19, **Kampe** teaches the invention substantially as claimed,

wherein the program is further configured to send an acknowledgment message during

an acknowledgment round, wait for receipt of an acknowledgment message from each

of the plurality of members, and process the group data after receipt of acknowledgment

messages from each of the plurality of members (paragraphs 0006-0007, 0031, 0085-

0093).

12.   As to claim 21, **Kampe** teaches the invention substantially as claimed,

wherein the program is configured to locally determine whether the local member is the

subgroup leader by determining whether the local member is a lowest named member

among the members associated with the subgroup (paragraphs 0078-0079).

13.   As to claim 22, **Kampe** teaches the invention substantially as claimed,

including a clustered computer system, comprising:

(a) a plurality of nodes coupled to one another over a network (abstract, figures

1-2);

(b) a plurality of member jobs defining a group and configured to be executed by

at least one of the plurality of nodes (abstract, figures 1-3, paragraphs 0011-0014,

0040-0045, 0058-0063); and

(c) a program configured to be executed by at least one of the plurality of nodes

to process a request: received by a member job from the plurality of member jobs to

add another member job to the group by locally determining for the member job whether

the member job is a subgroup leader for a subgroup with which the member job is

associated, and if so, transmitting group data on behalf of the subgroup (abstract,

figures 1-3, paragraphs 0011-0014, 0040-0045, 0058-0063).

14.   As to claim 23, **Kampe** teaches the invention substantially as claimed,

including a program product, comprising: (a) a program configured to process a request

in a clustered computer system to organize a plurality of members into a group by

locally determining for a local member among the plurality of members whether the local

member is a subgroup leader for a subgroup with which the local member is associated,

and if so, transmitting group data on behalf of the subgroup (abstract, figures 1-3,

paragraphs 0011-0014, 0040-0045, 0058-0063); and (b) a signal bearing medium

bearing the program (figures 1-3, paragraphs 0040- 0045).

15.   As to claim 24, **Kampe** teaches the invention substantially as claimed,

wherein the signal bearing medium includes at least one of a recordable medium and a

transmission medium (figures 1-3, paragraphs 0040- 0045).

Claim Rejections - 35 USC § 103

16.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

17.   Claims 2, 5-7, 13, 15, 17, and 20 are rejected under 35 U.S.C. § 103

(a) as being unpatentable over **Kampe et al.,** (hereinafter Kampe) U.S.

Publication No. **2003/0041138**.

18.   As to claim 2, **Kampe** does not substantially teach the step of detecting in

the local member whether the group data for the subgroup has already been transmitted

by a previous subgroup leader, wherein transmitting the group data by the local member is performed only if the group data has not already been transmitted. However, **Kampe** teaches detecting whether the previous master is failed or not. If the master is failed, vice-master takes over and acts as a master without interruption or failure (paragraph 0041). It would have been obvious that the system will detect whether the transmitting data already transmitted by the previous master or not to avoid the disadvantage of the redundancy of the entire of procedure (paragraphs 0006-0010). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made that **Kampe** implicitly discloses the step of detecting whether the master is failed, then the vice-master takes over and responsible for monitoring as a master (paragraph 0074) without interruption, failed and redundancy equivalent to the step of detecting in the local member whether the group data for the subgroup has already been transmitted by a previous subgroup leader, wherein transmitting the group data by the local member is performed only if the group data has not already been transmitted as disclosed in the applicant's specification. A person of ordinary skill in the art would have recognized that **Kampe** performs the same function in substantially the same way to reach substantially the same result.

19. As to claim 5, **Kampe** teaches the invention substantially as claimed, further comprising, in the local member: (a) receiving a message identifying a failed member among the plurality of members (paragraphs 0056-0057); and (b) in response to receiving the message, identifying the failed member, locally determining whether the

local member is the subgroup leader for the subgroup subsequent to the failure of the

failed member, and transmitting group data on behalf of the subgroup using the local

member if the group data for the subgroup has not yet been transmitted (paragraphs

0050-0063). **Kampe** teaches determines whether the master is failed or not. If the

master is failed, vice-master takes over and acts as a master without interruption or

failure (paragraph 0041) and transmits data if the data has not yet been transmitted. It

would have been obvious that the system will detect whether the transmitting data

already transmitted by the previous master or not to avoid the disadvantage of the

redundancy of the entire of procedure (paragraphs 0006-0010). It would have been

obvious to one of ordinary skill in the Data Processing art at the time of the invention

was made that **Kampe** implicitly discloses the step of determining whether the master is

failed, then the vice-master takes over and responsible for monitoring as a master

(paragraph 0074) without interruption, failure and redundancy equivalent to the step of

determining whether the subgroup leader is failed or not and transmitting group data if

the group data has not already been transmitted as disclosed in the applicant's

specification. A person of ordinary skill in the art would have recognized that **Kampe**

performs the same function in substantially the same way to reach substantially the

same result.

20.   As to claim 6, **Kampe** teaches the invention substantially as claimed,

wherein receiving the message identifying the failed member includes receiving a

membership change message that is automatically generated responsive to failure of

the failed member (paragraph 0041, paragraphs 0056-0057).

21.   As to claim 7, **Kampe** teaches the invention substantially as claimed,

wherein sending the acknowledgment message is performed subsequent to the local

member transmitting the group data on behalf of the subgroup if the local member is

determined to be the subgroup leader, the method further comprising bypassing the

transmitting of the group data by the local member if the local member is determined not

to be the subgroup leader (paragraph 0052, paragraph 0067).

22.   As to claim 13, **Kampe** teaches the invention substantially as claimed,

further comprising:

(a) locally determining within each member whether the member is a subgroup

leader for the subgroup with which the member is associated (abstract, figures 1-2, 4,

paragraphs 0011-0014, paragraphs 0058-0063); and

(b) if the member is a subgroup leader and the group data for the subgroup

associated with the member has not been transmitted, transmitting with the member the

group data on behalf of the subgroup (abstract, figure 4, paragraph 0031, paragraphs

0040-0047, paragraphs 0058-0063). It would have been obvious to one of ordinary skill

in the Data Processing art at the time of the invention was made that **Kampe** implicitly

discloses the step of determining whether the master is failed, then the vice-master

takes over and responsible for monitoring as a master (paragraph 0074) without

interruption, failure and redundancy equivalent to the step of determining the member is

a subgroup leader and the group data has not already been transmitted, transmitting the

group data as disclosed in the applicant's specification. A person of ordinary skill in the

art would have recognized that **Kampe** performs the same function in substantially the

same way to reach substantially the same result.

23.   As to claim 15, **Kampe** teaches the invention substantially as claimed,

including a method of processing a request in a clustered computer system to organize

a plurality of members into a group, the plurality of members partitioned into a plurality

of subgroups, the method comprising, for each subgroup:

(a) determining a subgroup leader for such subgroup via a local determination

made within each active member associated with such subgroup (abstract, figures 1-2,

4, paragraphs 0011-0014, 0058-0063);

(b) determining within the subgroup leader for such subgroup whether group data

has already been transmitted on behalf of such subgroup; (c) if group data has not

already been transmitted on behalf of such subgroup, transmitting the group data using

the subgroup leader (abstract, figure 4, paragraphs 0031, 0040-0047, 0058-0063). It

would have been obvious to one of ordinary skill in the Data Processing art at the time

of the invention was made that **Kampe** implicitly discloses the step of determining

whether the master is failed, then the vice-master takes over and responsible for

monitoring as a master (paragraph 0074) without interruption, failure and redundancy

equivalent to the step of determining within the subgroup leader whether the group data

has already been transmitted, transmitting the group data as disclosed in the applicant's

specification. A person of ordinary skill in the art would have recognized that **Kampe**

performs the same function in substantially the same way to reach substantially the

same result.

(d) performing an acknowledgment round to detect any failed members

(paragraphs 0006-0007, 0031, 0085-0090); and

(e) repeating the determination of the subgroup leader for such subgroup, and

the performance of the acknowledgment round until no failed members are detected in

response to a last performed acknowledgment round (paragraphs 0006-0006, 0030-

0032, 0085-0090).

24.   As to claim 17, **Kampe** does not explicitly teach the invention substantially

as claimed, wherein the program is further configured to detect whether the group data

for the subgroup has already been transmitted by a previous subgroup leader, and

wherein the program is configured to transmit the group data only if the group data has

not already been transmitted. However, **Kampe** teaches detecting whether the

previous master is failed or not. If the master is failed, vice-master takes over and acts

as a master without interruption or failure (paragraph 0041). It would have been

obvious that the system will detect whether the transmitting data already transmitted by

the previous master or not to avoid the disadvantage of the redundancy of the entire of

procedure (paragraphs 0006-0010). It would have been obvious to one of ordinary skill

in the Data Processing art at the time of the invention was made that **Kampe** implicitly

discloses the step of detecting whether the master is failed, then the vice-master takes

over and responsible for monitoring as a master (paragraph 0074) without interruption,

failed and redundancy equivalent to the step of detecting in the local member whether

the group data for the subgroup has already been transmitted by a previous subgroup

leader, wherein transmitting the group data by the local member is performed only if the

group data has not already been transmitted as disclosed in the applicant's

specification. A person of ordinary skill in the art would have recognized that **Kampe**

performs the same function in substantially the same way to reach substantially the

same result.

    25.   As to claim 20, **Kampe** teaches the invention substantially as claimed,

wherein the program is further configured to receive a message identifying a failed

member among the plurality of members, and in response to receiving the message,

identify the failed member, locally determine whether the local member is the subgroup

leader for the subgroup subsequent to the failure of the failed member, and transmit

group data on behalf of the subgroup if the group data for the subgroup has not yet

been transmitted (paragraphs 0050-0063). **Kampe** teaches determines whether the

master is failed or not. If the master is failed, vice-master takes over and acts as a

master without interruption or failure (paragraph 0041) and transmits data if the data

has not yet been transmitted. It would have been obvious that the system will detect

whether the transmitting data already transmitted by the previous master or not to avoid

the disadvantage of the redundancy of the entire of procedure (paragraphs 0006-0010).

It would have been obvious to one of ordinary skill in the Data Processing art at the time

of the invention was made that **Kampe** implicitly discloses the step of determining

whether the master is failed, then the vice-master takes over and responsible for

monitoring as a master (paragraph 0074) without interruption, failure and redundancy

equivalent to the step of determining whether the subgroup leader is failed or not and

transmitting group data if the group data has not already been transmitted as disclosed

in the applicant's specification. A person of ordinary skill in the art would have

recognized that **Kampe** performs the same function in substantially the same way to

reach substantially the same result.

26.   Claim 10 is rejected under 35 U.S.C. § 103 (a) as being unpatentable

over **Kampe et al.,** (hereinafter Kampe) U.S. Publication No. **2003/0041138**, in view of

Moiin U.S. Patent No. **6,108,699**.

27.   As to claim 10, **Kampe** teaches the invention substantially as claimed,

wherein the request comprises a join request, wherein the plurality of members is

partitioned into first and second subgroups (abstract, paragraphs 0052, paragraphs

0061-0067). However, **Kampe** does not explicitly teach the first group associated with

existing members of the group, and the second subgroup associated with new members

to be added to the group responsive to the join request. **Moiin** teaches the first group

associated with existing members of the group, and the second subgroup associated

with new members to be added to the group responsive to the join request (abstract,

col. 2 lines 10-38). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to have the request comprises a join request, wherein the plurality of members is partitioned into first and second subgroups as taught by **Kampe** to combine the teaching of **Moiin** to have the result of first group associated with existing members of the group, and the second subgroup associated with new members to be added to the group responsive to the join request in order to enhance and improve the performance, reliability and fault tolerant of a distributed computer system.

Allowable Subject Matter

Claims 3, 14, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

28.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

29.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Ha Nguyen, whose telephone number is (703) 305-7447. The examiner can normally be reached Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain T. Alam, can be reached at (703) 308-6662.

Any inquiry of a general nature of relating to the status of this application should

be directed to the Group receptionist whose telephone number is (703) 305-9600.

The fax phone numbers for the organization where this application or proceeding

is assigned are 703-872-9306 for regular communications.

Thu Ha Nguyen

November 14, 2003

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER